LISTING OF CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of reading out the sensor elements of a sensor (1) with a matrix of light-sensitive or X-ray sensitive sensor elements ($S_{1,2}$; $S_{1,2}$ ...), which are arranged in rows and columns and generate charges in dependence on the incident quantity of radiation, the switches (3) of the relevant sensor elements being activated via address lines (4, 8, ...) and the charges of the respective activated sensor elements being drained via read-out lines (9, 10, 11, ...) so as to be processed further by way of amplifiers (14, ..., 18, ...) and transfer means (19), characterized in that ingoing address lines (4, ..., 8, ...) are selectably connected, by means of individually controllable switch elements (27, ..., 30, ...) and by way of a switching operation, to the respective next address line in such a manner that the sensor elements of at least two neighboring lines are activated by means of one ingoing signal, and that corresponding outgoing read-out lines (9, ..., 13, ...) are selectably connected to the respective next read-out line by means of individually controllable switch elements (31, .., 34, ...) and by way of a switching operation, in such a manner that the charge signals read out from the activated sensor elements of at least two neighboring columns are combined so as to form one output signal.

2. (Original) A method as claimed in Claim 1, characterized in that the magnitude of a group of sensor elements to be read out and/or the distribution of a plurality of groups of sensor elements to be read out across the overall matrix is predetermined as a binning pattern and that the binning pattern is locally variable during an exposure.

3. (Original) A method as claimed in Claim 2, characterized in that it is possible to intervene in the programmed execution of a binning pattern during the exposure.

4. (Currently amended) A sensor with a matrix of light-sensitive or X-ray sensitive sensor elements ($S_{1,1}$; $S_{1,2}$ ...) which are arranged in rows and columns and generate charges in dependence on the incident quantity of radiation, with a respective switch (3) with an address line (4, ..., 8, ...) for each sensor line for connection to activation means (20) via which the electrical sensor switches can be activated, with a read-out line (9, ..., 13, ...) for each sensor column via which the charges of the respective activated sensor elements are drained, with transmission means (19) at the end of the relevant read-out line for converting the signals read out in parallel into a serial signal, as well as with amplifiers (14, ..., 18, ...) which precede the transmission means, characterized in that a first unit of switch elements (27, ..., 30, ...) is arranged between the activation means (20) and the electrical sensor switches, that a second unit of switch elements (31, ..., 34, ...) is arranged between the electrical sensor switches and amplifiers (14, ..., 18, ...), and that there is provided a system (21, 35) for controlling the switching operations of the switch elements in order to connect each ~~time a~~ switch element or a read-out line to at least one neighboring line.

5. (Original) A sensor as claimed in Claim 4, characterized in that the switch elements are arranged either on switch or read-out lines or are integrated directly in the sensor matrix.

6. (Currently amended) A sensor as claimed in Claim 4, characterized in that the control system for the first and the second unit of switch elements consists of a first and a second shift register (20, 35) with a plurality of shift register elements (22, ..., 26, ...; 36, ..., 40, ...), each ~~time one~~ shift register element being associated with one switch element per address line or read-out line.

7. (Original) A sensor as claimed in Claim 6, characterized in that a shift register is constructed so as to be bidirectional.

8. (Original) A sensor as claimed in Claim 6, characterized in that additionally to the two shift registers (20, 35), or instead of the shift registers, there is provided a random accessible register.

9. (Previously presented) A sensor as claimed in Claim 6, characterized in that the relevant control shift register is double buffered.

10. (Previously presented) An X-ray examination apparatus, including an X-ray source (44) for emitting an X-ray beam for irradiating an object so as to form an X-ray image, and a detector (42) for generating an electrical image signal from said X-ray image, characterized in that the X-ray detector (42) includes a sensor as claimed in the Claims 4.

11. (New) An apparatus for imaging radiation, comprising:

a matrix comprising:

a plurality of sensor elements for sensing radiation,

wherein the plurality of sensor elements are configured in rows and columns of the matrix,

wherein each of the plurality of sensor elements is adapted to generate a charge based on and in response to sensing a quantity of radiation,

wherein each row of sensor elements comprises an electrical sensor switch operably coupled to an activation means via an address line, whereby the activation means is configured to activate the electrical sensor switch;

a plurality of readout lines, each operably coupled to at least one column of the plurality of sensor elements and configured to drain the at least one column's sensor elements which have been charged, wherein each readout line comprises:

a plurality of amplifiers, each operably coupled to a readout line and adapted to amplify each readout line's signal corresponding to at least one of the drained charges;

a transmission means operably coupled to the plurality of readout lines for converting the drained charges into a serial signal;

a first unit having a plurality of switch elements, operably coupled to the activation means and operably coupled to the electrical sensor switches;

a second unit having a plurality of switch elements, operably coupled to the electrical sensor switches and operably coupled to the amplifiers;

wherein the switch elements are configured to operate in coordination so that an output signal includes combination of at least two neighboring readout line signals.